

## Meningococcal Disease Fact Sheet

### Meningococcal Disease

- Meningococcal disease is an acute bacterial infection caused by *Neisseria meningitidis* that can cause death within hours if not recognised and treated promptly.<sup>1</sup>
- The disease can appear as meningococcal septicaemia (blood poisoning) or meningococcal meningitis, or both,<sup>1</sup> and is most prevalent in infants and adolescents.<sup>2</sup>
- There are five main serogroups of the bacteria that causes meningococcal disease; A, B, C, W and Y.<sup>2</sup>
- In many developed countries, the main groups that cause disease are groups B and C.<sup>2</sup> However, the introduction into national immunisation programs of effective vaccines against group C have led to a significant decline in this as a cause of disease.<sup>3</sup>

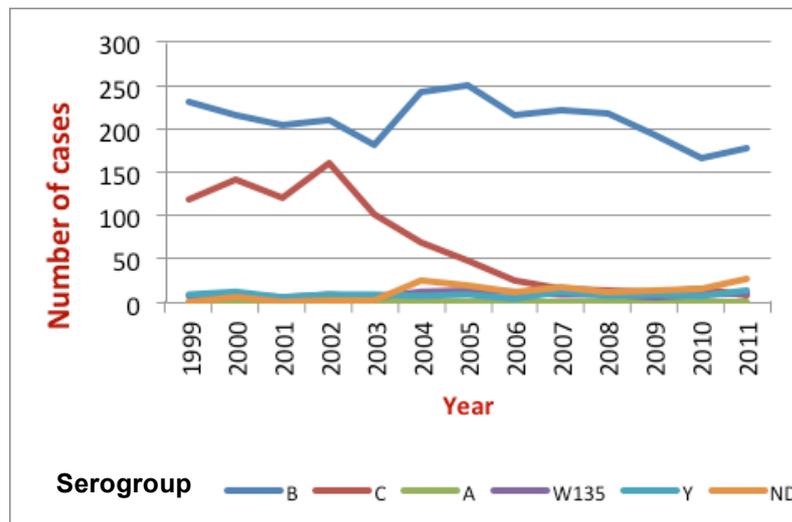


Figure 1: Notified cases of meningococcal disease for all ages in Australia, 1999-2011<sup>3</sup>

- Meningococcal B however remains the major cause of disease in developed countries.<sup>4</sup> In 2011, group B accounted for 89 per cent of meningococcal disease amongst 0-19 year olds in Australia.<sup>4</sup>

## Meningococcal Septicaemia

- Meningococcal Septicaemia (blood poisoning) is a medical emergency.
- Septicaemia happens when the bacteria enter the bloodstream and multiply uncontrollably, damaging the walls of the blood vessels and causing bleeding into the skin (which results in a distinctive rash associated with meningococcal disease).

## Meningitis

- Meningitis is inflammation of the lining of the brain and spinal cord.<sup>1</sup>
- There are many different forms of meningitis including fungal, viral and bacterial. Bacterial meningitis is the most serious form of the disease.<sup>2</sup>
- Most cases of bacterial meningitis are caused by three species of bacteria: *Haemophilus influenzae type b* (Hib), *Streptococcus pneumoniae* (pneumococcus) and *Neisseria meningitidis* (meningococcus) (referred to as Meningococcal Meningitis).<sup>2</sup>

## Meningococcal Disease Signs and Symptoms

The symptoms vary between *Meningococcal Meningitis* and *Meningococcal Septicaemia*. Sufferers can be impacted by both septicaemia and meningitis, further complicating diagnosis.

### a) Meningococcal septicaemia

- Shivering, chills, cold hands or feet, skin colour change
- Sudden, severe pain in arms, legs, joints and stomach
- Fever, thirst, nausea, vomiting, maybe diarrhoea
- Drowsiness, loss of consciousness, rapid breathing
- Spots or pinprick rash (develops to purple blotches)



## b) Meningococcal meningitis

- Severe headache
- Stiff or painful neck
- Sensitivity to light
- Vomiting
- Drowsiness, loss of consciousness, convulsions
- A rash may develop in the later stages

## c) For babies – additional symptoms may include:

- Refusing to feed, fretfulness
- Shrill or moaning cry
- Blank and staring expression
- Being floppy or lethargic
- Arching of the body or neck
- Tense or bulging fontanelle (the soft spot of a baby's head)

## **Carriage & Transmission**

- It is estimated that about 10% of the population can carry meningococcus in their throat and / or nose at any one time and show no symptoms. The disease is transmitted by respiratory droplets, and is spread by prolonged or close contact.<sup>5</sup>
- Overall mortality of meningococcal disease is 8% (up to 5% in meningitis and rising to 15-20% with septicaemia).<sup>6</sup>
- 10-20% of survivors are left with permanent disabilities<sup>5</sup>, ranging from learning difficulties, sight / hearing problems, loss of fingers, toes and limbs, and scarring from skin grafts.

## **Vaccination**

- Meningococcal C vaccine was developed in 2002<sup>7</sup> and was included as part of the National Immunisation Program (NIP) in 2003 and children are immunised at 12 months of age. The vaccine is fully funded by the Federal Government as part of this program.<sup>8</sup>
- In the 10 years since the introduction of the meningococcal C vaccine on the NIP, cases of meningococcal C disease declined from a peak of 162 cases in 2002 to nine cases in 2011.<sup>3</sup>

- A vaccine is available which covers 4 serogroups; A, C, W and Y.<sup>9</sup> This vaccine may be used in adults and children over 2 years (usually when travelling), with clinical protection for at least 3 years in adults and school-aged children (less for younger children).<sup>9</sup> This vaccine is available as a private prescription if deemed necessary by a doctor.
- In August 2013 the TGA approved for registration a new vaccine that provides immunisation against specific group B strains.<sup>10</sup> The vaccine was made available for private prescription from March 2014. The sponsor of this vaccine has applied for Government funding as part of the National Immunisation Program as is the case for the C group vaccine, however has been unsuccessful after two applications to the Government.
- Local GPs are the best source of advice on vaccination and should be consulted for further information.

## **Prevention**

- Given meningococcal disease is caused by a bacteria transmitted by respiratory droplets, good hygiene is important to minimising the likelihood of contraction. This includes washing hands, avoid sharing food and drinks, turning away to cough / sneeze, disposing of tissues in the bin after use.

## **About Meningococcal Australia**

Meningococcal Australia was formed by people passionate about increasing community awareness of the signs and symptoms of meningococcal disease.

Early diagnosis and treatment is critical to avoid terrible complications from the disease, and ensure the best chance of recovery and survival.

Many of the members of Meningococcal Australia have been personally touched under tragic circumstances by the disease and have dedicated their efforts to preventing the terrible disease impacting other families.

Meningococcal Australia works to:

- Educate the community about meningococcal disease
- Lobby for appropriate prevention and treatment pathways
- Provide support to those families affected by meningococcal disease
- Work in consultation with the state-based meningococcal charities

For further information visit [www.meningococcal.org.au](http://www.meningococcal.org.au) or [www.facebook.com/MeningococcalAustralia](https://www.facebook.com/MeningococcalAustralia)

## **References:**

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- <sup>3</sup> Neisseria meningitidis isolates by serogroup and year, Annual reports of the Australian Meningococcal Surveillance Programme. Available online. Last accessed 13 June 2013: <http://www.health.gov.au/internet/main/publishing.nsf/content/cda-pubs-annlrpt-menganrep.htm>
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